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REMARKS

In the Office Action dated April 26, 2005, claims 1-40 are pending in the above application. Claims 1, 23, 24, 32, and 34 are independent claims from which all other claims depend therefrom. Claims 1-2, 6-7, 20, 24, 32, 34, 36, and 39 are herein amended. Claims 3, 26, and 33 are herein canceled. Claims 41-43 are newly added. Note that paragraphs [0006], [0007], and [0014] are also herein amended.

Claims 1-2, 4-10, 12-22, and 24-38 stand rejected under 35 U.S.C. 102(e) as being anticipated by Jones (U.S. Patent Pub. No. 2004/0000353).

The Office Action states that originally filed claim 3 is allowable if rewritten in independent form. Note that the limitations of originally filed claim 3 are herein incorporated into claim 1. In order for a reference to anticipate a claim the reference must teach or suggest each and every element of that claim, see MPEP 2131 and *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628. Therefore, since Jones fails to teach or suggest each and every limitation of amended claim 1, it is novel, nonobvious, and is in a condition for allowance. Also, since claim 1 is now allowable in view of Jones and since claims 2, 4-10, and 12-22 depend from claim 1, they too are novel, nonobvious, and are in a condition for allowance for at least the same reasons.

Claim 20 recites the limitations of an ejector within a portion of a fuel tank that mixes an inerting gas with other gases in the fuel tank. The ejector uses motive flow of the inerting gas to cause the mixing of the gases. The Office Action states that Jones discloses such an ejector and refers to paragraph 4. Applicants, respectfully, traverse. The Office Action states that the outlet of Jones from the inerting system into the fuel tank is considered an injector. Applicants submit that the system of Jones attempts to replace the fuel/air mixture within a fuel tank with an inert gas. The system of Jones does not mix an inert gas with other gases (or ullage) within a fuel tank, as claimed.

The system of Jones utilizes a jet pump to draw air flow through a heat exchanger externally from a fuel tank. This is common practice in the industry.

The drawing of air through a heat exchanger is not the same as the mixing of

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fuel tank ullage. The system of Jones simply pumps nitrogen into the fuel tank. There is nothing in Jones that suggests that the nitrogen mixes with the rest of the ullage. Many commercial aircraft fuel tanks have internal structure that limit the ability for the nitrogen to mix with the ullage. The present invention in using an ejector, as claimed, provides for such mixing. The claimed invention uses the inerting gas flow into the fuel tank as the motive flow in the ejector to cause flow circulation or mixing within the tank. This is described in paragraph [0043] and is shown in Figure 1 of the present application. The claimed invention allows for inert ullage throughout a fuel tank rather than in specific areas. Thus, claim 20 is further novel, nonobvious, and is in a condition for allowance for the above-stated reasons. Since claim 21 depends from claim 20, it too is further novel and nonobvious for at least the same reasons.

Claim 41 depends from claim 1 and is thus also novel, nonobvious, and is in a condition for allowance for at least the same reasons.

Claim 24 recites the limitations of controlling the flow of an inerting gas from an air separation module to a fuel tank to maintain oxygen content level in the fuel tank at or below approximately 12% for a majority of flight conditions and to allow the oxygen content level to exceed 12% for a minority of the flight conditions. This is described in paragraphs [0022], [0025], [0030], and [0045] of the present application. By allowing the oxygen levels to be maintained at approximately 12% and by allowing the oxygen levels to exceed 12% an inerting system can be designed with reduced weight, size, complexity, and associated manufacturing costs. In addition, this capability improves reliability and operational performance. The claimed invention provides a practical inerting system design that may be utilized on commercial aircraft.

The Office Action implies that Jones discloses the maintaining of oxygen content levels within a fuel tank at approximately 12% or less and in so doing refers to paragraph 23, lines 11-13 of Jones. Applicants submit that in paragraph 23 Jones discloses the maintaining of oxygen levels below the critical oxygen level at all times including during climb, cruise, descent, and

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landing. Applicants submit that Jones does not allow the fuel tank oxygen level to exceed the critical oxygen level, which, as stated by Jones, is between 10-14% or approximately 12%. The claimed invention does not eliminate the exposure to oxygen levels greater than 12%, as does the Jones system.

Thus, Jones fails to teach or suggest each and every limitations of claim 24. Claim 24 is therefore also novel, nonobvious, and is in a condition for allowance. Since claims 25, and 27-31 depend from claim 24, they too are novel, nonobvious, and are in a condition for allowance. Claims 42-43 depend from claim 24 and are also therefore novel, nonobvious, and are in a condition for allowance for the above-stated reasons. Applicants also submit that none of the dependent limitations of claim 41 are taught or suggested by Jones.

Claim 32, recites the limitations of an ejector within a portion of a fuel tank that uses inerting gas flow to significantly mix an inerting gas with other gases in and throughout the fuel tank. Claim 32 also recites the limitations of a controller that controls the flow of the inerting gas from an air separation module to the fuel tank to minimize exposure to oxygen content levels greater than approximately 12%. As stated above, the limitations of an ejector as claimed and the minimization to oxygen exposure levels above 12%, as opposed to the elimination thereof, are not taught or suggested by Jones. Thus, claim 32 is also novel, nonobvious, and is in a condition for allowance for at least the same reasons as that of claims 20 and 24.

Claim 34 also recites the limitations of an ejector within a portion of a fuel tank that uses the motive flow of an inerting gas to mix the inerting gas with other gases in the fuel tank, which is not taught or suggested by Jones. Therefore, claim 34 and claims 35-38, which depend from claim 34, are also novel, nonobvious, and are in a condition for allowance.

Claims 11 and 40 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Jones in view of Hickey et al. (U.S. Pat. No. 3,691,730).

Applicants submit that since claims 11 and 40 depend from now allowable claims 1 and 34, respectively, that they too are novel, nonobvious, and are in a condition for allowance for at least the same reasons.

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Claims 3 and 39 stand objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent for to include all of the limitations of the base claim. Claim 3 is herein canceled. Claim 39 is now dependent upon allowable claim 34 and thus is also allowable as drafted.

In light of the amendments and remarks, Applicants submit that all of the objections and rejections are now overcome. The Applicants have added no new matter to the application by these amendments. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited. Should the Examiner have any questions or comments, the Examiner is respectfully requested to contact the undersigned attorney.

Respectfully submitted,

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